Claims

[c1] 1.A composition for treating a meat product, the composition comprising:
a phosphate compound in an amount of about 5 to about 50 parts by weight based on the total weight of the solids in the composition;
a protein compound in an amount of about 5 to about 70 parts by weight based on the total weight of the solids in the composition;
a carrageenan in an amount of about 5 to about 50 parts by weight based on the total weight of the solids in the composition; and
a hydrocolloid other than carrageenan in an amount of about 1 to about 15 parts by weight based on the total weight of the solids in the composition.

[c2] 2.The composition according to Claim 1, wherein the carrageenan is selected from the group consisting of kappa- carrageenan, iota- carrageenan lambda-carrageenan, and combinations containing at least one of the foregoing carrageenans.

[c3] 3.The composition according to Claim 1, wherein the protein comprises a vegetable protein, an animal protein, and combinations containing at least one of the foregoing proteins.

[c4] 4.The composition according to Claim 1, wherein the protein is an isolated soy protein.

[c5] 5.The composition according to Claim 1, wherein the carrageenan is kappa carrageenan.

[c6] 6.The composition according to Claim 1, wherein the phosphate compound is selected from the group consisting of mono-basic, di-basic, and tri-basic orthophosphates, pyrophosphates polyphosphates, metaphosphates, and combinations containing one of the foregoing phosphates.

[c7] 7.The composition according to Claim 1, wherein the hydrocolloid is a guar gum, a locust bean gum or a combination containing the locust bean gum and the guar gum.

[c8] 8.The composition according to Claim 1, further comprising a native starch

compound in an amount of about 5 to about 70 parts by weight based on the total weight of the solids in the composition.

[c9] 9.The composition according to Claim 1, further comprising a native starch compound, wherein a total amount of the native starch and the protein is about 5 to about 70 parts by weight of the total solids in the composition.

[c10] 10.The composition according to Claim 1, wherein the hydrocolloid is selected from the group consisting of alginates, agar, konjak, cellulose derivatives, tara gum, pectins, gellan gum, guar gum, locust bean gum, xanthan gum, and combinations containing at least one of the foregoing hydrocolloids.

[c11] 11.A brine composition for treating a meat product, the brine composition comprising:
water;
an alkali metal chloride salt in an amount of about 30 to about 80 parts by weight based on the total weight of the solids in the composition;
a phosphate compound in an amount of about 5 to about 50 parts by weight based on the total weight of the solids in the composition;
a protein compound in an amount of about 5 to about 70 parts by weight based on the total weight of the solids in the composition;
a carrageenan in an amount of about 5 to about 50 parts by weight based on the total weight of the solids in the composition; and
a hydrocolloid other than carrageenan in an amount of about 1 to about 15 parts by weight based on the total weight of the solids in the composition.

[c12] 12.A composition consisting essentially of:
an alkali metal chloride salt in an amount of about 30 to about 80 parts by weight based on the total weight of the solids in the composition;
a tripolyphosphate compound in an amount of about 5 to about 50 parts by weight based on the total weight of the solids in the composition;
an isolated soy protein compound in an amount of about 5 to about 70 parts by weight based on the total weight of the solids in the composition;
a kappa carrageenan in an amount of about 5 to about 50 parts by weight based on the total weight of the solids in the composition; and

a hydrocolloid other than carrageenan in an amount of about 1 to about 15 parts by weight based on the total weight of the solids in the composition.

[c13] 13.A process of treating meat to reduce the occurrence of pale, soft, and exudative characteristics in the meat, the process comprising:
applying to the meat a brine solution in an amount effective to reduce or prevent the occurrence of the pale, soft, and exudative characteristics, wherein the brine solution comprises water; an alkali metal chloride salt in an amount of about 30 to about 80 parts by weight based on the total weight of the solids in the composition; a tripolyphosphate compound in an amount of about 5 to about 50 parts by weight based on the total weight of the solids in the composition; an isolated soy protein compound in an amount of about 5 to about 70 parts by weight based on the total weight of the solids in the composition; a carrageenan in an amount of about 5 to about 50 parts by weight based on the total weight of the solids in the composition; and a hydrocolloid other than carrageenan in an amount of about 1 to about 15 parts by weight based on the total weight of the solids in the composition.

[c14] 14.The process according to Claim 13, wherein the meat is selected from the group consisting of poultry, pork, beef, and combinations containing at least one of the foregoing meats.

[c15] 15.The process according to Claim 13, wherein the brine solution is applied by mixing an aqueous solution of the composition with the meat.

[c16] 16.The process according to Claim 13, wherein the brine solution is applied by injection into the meat.

[c17] 17.The process according to Claim 13, further comprising lowering the pH to below about 7.

[c18] 18.A process for treating meat to reduce the occurrence of pale, soft, and exudative characteristics in the meat, comprising contacting the meat with a treatment solution having a pH greater than about 7, said solution comprising water; an alkali metal chloride salt in an amount of about 30 to about 80 parts by weight based on the total weight of the solids in the composition; a

phosphate compound in an amount of about 5 to about 50 parts by weight based on the total weight of the solids in the composition; a protein compound in an amount of about 5 to about 70 parts by weight based on the total weight of the solids in the composition; a carrageenan in an amount of about 5 to about 50 parts by weight based on the total weight of the solids in the composition; and a hydrocolloid other than carrageenan in an amount of about 1 to about 15 parts by weight based on the total weight of the solids in the composition, said treatment being conducted for a period of time effective to reduce an average freeze/thaw loss to less than 10%.

[c19] 19.The process according to Claim 15, wherein the meat is treated at a temperature of about 30 ^{o} to about 40 ^{o} Farenheight.